

Mapping UNSW Impact Global Development

Primary SDG	7: AFFORDABLE AND CLEAN ENERGY
Broad theme	Solar energy, creating cooperatives
Research	Selling solar systems under a PAYG model, and helping villages to form cooperatives to access better finance, and energy and agricultural prices
Impact region	Malawi
Faculty	Arts and Social Sciences
School/Institute	Humanities and Languages
Academic	Shanil Samarakoon
Project partners	Zuwa Energy, Africa Enterprise Challenge Fund
	Empower Projects
Related SDGs	11: Sustainable Cities and Communities
	1: No Poverty
	15: Life on Land

Elevator pitch

To help Malawians access much needed energy, Shanil has co-founded a start-up that sells solar systems to households under a friendly pay-as-you-go (PAYG) model. His other start-up helps villages in Malawi to form cooperatives and adopt permaculture practices, increasing their quality of life.

The Challenge: Lack of basic energy supply, locals demanding more advanced solar systems

Malawi is one of the least developed countries in the world. Homes lack basic access to a dependable energy source. Nearly 90% of the population (18 million) do not have access to the electricity grid. Many of these people live in a rural setting. Power outages are common and can last for up to 30 hours. In response, thousands of people have adopted basic solar power technology in their homes to power lamps.

Interest in this technology has grown and there is now a thirst for larger, more capable systems to support lower to middle income families. In order to address the barrier of upfront costs, larger systems are being increasingly offered under pay-as-you-go arrangements, a model that has proven effective in East African countries such as Kenya, Rwanda and Tanzania.

UNSW's solution: Start-ups offering solar system devices, and helping to create cooperatives

To help fulfil the healthy demand for solar technology devices, Shanil started selling solar systems to households in Malawi in 2016 through his start-up company, Zuwa Energy. Zuwa has sold around 200 units which are priced between USD 250-1000. Under a PAYG model, a unit can be bought for 20% of the total cost up front. The household pays back the remaining amount over 12-24 months, with no interest. Zuwa Energy

recently received USD 700,000 in funding from the Africa Enterprise Challenge Fund to scale its operations over the next four years. This funding will be used to order new stock and ramp up sales, but the business is still looking to match the funding received. Shanil is one of three directors of Zuwa; he is based in Sydney, with the other two directors based in Malawi.

Another one of Shanil's start-ups, Empower Projects (EP), works with rural regions (30-50 villages) in Malawi to establish cooperatives around finance, agriculture and energy. It is a not for profit with volunteer directors (including Shanil) and nine full time staff based in Malawi. They provide training and capital over a five-year period with the goal of enabling local villages to self manage and improve local livelihoods. EP also works with schools in the same regions to establish permaculture gardens to feed kids, and to help set up composting toilets, rainwater harvesting, and solar electricity. These initiatives are led and managed by committees that comprise students, staff and parents. Money is provided to schools for key inputs such as seedlings, wheelbarrows, cement, and solar power technology. To date, EP has helped establish five cooperatives and aided three schools. In 2018, they will help establish another five cooperatives and aid a further three schools. Capital for EP is raised via crowdfunding campaigns, corporate sponsors in Malawi and Australia (Reho Travel in Melbourne), and through philanthropic circles in Malawi.

The Impact: Improving quality of life at home, empowering villages

Zuwa Energy is providing affordable and reliable energy systems to families who do not have access to the energy grid. The addition of a solar power system to the household for these lower to middle income families changes their lives, enabling more lighting around the house, and to charge mobile devices and power appliances such as TVs and computers.

Empower Projects helps communities to form cooperatives in order to address self-identified development challenges such as access to finance, energy and fetching fairer market prices for agricultural produce. The community-led nature of a cooperative creates a sense of inclusion and self determination among villagers, increasing their confidence and quality of life. EP's work with schools engages parents, students and staff to adopt permaculture to address issues such as hunger, sanitation and water access. Permaculture activities are having a flow-on effect across the wider community with the school serving as a demonstration centre for sustainable farming practices.

Researcher

Shanil Samarakoon grew up in Malawi until he was 12 years old. He is currently doing his PhD at UNSW on energy justice in Malawi (with Paul Munro as his supervisor). He is looking at how social and cultural norms shape solar adoption in Malawi, and the effectiveness of PAYG in increasing the adoption of solar household systems. For the last four years, Shanil has lectured at UNSW Business on ethics and sustainability. Conscious of his relatively privileged upbringing, Shanil has wanted to help address inequality from an early age.

Ben Falkenmire 08.05.18